

RAW SEQUENCE LISTING

**The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.**

Application Serial Number: 10/656,894
Source: IFW90
Date Processed by STIC: 08/08/2005

ENTERED



IFWO

RAW SEQUENCE LISTING

DATE: 08/08/2005

PATENT APPLICATION: US/10/656,894

TIME: 10:04:32

Input Set : D:\P-3558-US.txt

Output Set: N:\CRF4\08082005\J656894.raw

```

3 <110> APPLICANT: Whitt, Michael
5 <120> TITLE OF INVENTION: RECOMBINANT MUTANTS OF RHABDOVIRUS AND METHODS OF USE THEREO
7 <130> FILE REFERENCE: P-3558-US
9 <140> CURRENT APPLICATION NUMBER: 10/656,894
10 <141> CURRENT FILING DATE: 2003-09-08
12 <160> NUMBER OF SEQ ID NOS: 23
14 <170> SOFTWARE: PatentIn version 3.1
16 <210> SEQ ID NO: 1
17 <211> LENGTH: 229
18 <212> TYPE: PRT
19 <213> ORGANISM: Vesicular stomatitis virus
21 <400> SEQUENCE: 1
23 Met Ser Ser Leu Lys Lys Ile Leu Gly Leu Lys Gly Lys Gly Lys Lys
24 1 5 10 15
27 Ser Lys Lys Leu Gly Ile Ala Pro Pro Pro Tyr Glu Glu Asp Thr Ser
28 20 25 30
31 Ala Glu Tyr Ala Pro Ser Ala Pro Ile Asp Lys Ser Tyr Phe Gly Val
32 35 40 45
35 Asp Glu Met Asp Thr Tyr Asp Pro Asn Gln Leu Arg Tyr Glu Lys Phe
36 50 55 60
39 Phe Phe Thr Val Lys Met Thr Val Arg Ser Asn Arg Pro Phe Arg Thr
40 65 70 75 80
43 Tyr Ser Asp Val Ala Ala Ala Val Ser His Trp Asp His Met Tyr Ile
44 85 90 95
47 Gly Met Ala Gly Lys Arg Pro Phe Tyr Lys Ile Leu Ala Phe Leu Gly
48 100 105 110
51 Ser Ser Asn Leu Lys Ala Thr Pro Ala Val Leu Ala Asp Gln Gly Gln
52 115 120 125
55 Pro Glu Tyr His Thr His Cys Glu Gly Arg Ala Tyr Leu Pro His Arg
56 130 135 140
59 Met Gly Lys Thr Pro Pro Met Leu Asn Val Pro Glu His Phe Arg Arg
60 145 150 155 160
63 Pro Phe Asn Ile Gly Leu Tyr Lys Gly Thr Ile Glu Leu Thr Met Thr
64 165 170 175
67 Ile Tyr Asp Asp Glu Ser Leu Glu Ala Ala Pro Met Ile Trp Asp His
68 180 185 190
71 Phe Asn Ser Ser Lys Phe Ser Asp Phe Arg Glu Lys Ala Leu Met Phe
72 195 200 205
75 Gly Leu Ile Val Glu Lys Lys Ala Ser Gly Ala Trp Val Leu Asp Ser
76 210 215 220
79 Ile Ser His Phe Lys
80 225
83 <210> SEQ ID NO: 2

```

RAW SEQUENCE LISTING

DATE: 08/08/2005

PATENT APPLICATION: US/10/656,894

TIME: 10:04:32

Input Set : D:\P-3558-US.txt

Output Set: N:\CRF4\08082005\J656894.raw

84 <211> LENGTH: 229

85 <212> TYPE: PRT

86 <213> ORGANISM: Vesicular stomatitis virus

88 <400> SEQUENCE: 2

```

90 Met Ser Ser Leu Lys Lys Ile Leu Gly Leu Lys Gly Lys Gly Lys Lys
91 1          5          10          15
94 Ser Lys Lys Leu Gly Ile Ala Pro Pro Pro Tyr Glu Glu Asp Thr Ser
95          20          25          30
98 Met Glu Tyr Ala Pro Ser Ala Pro Ile Asp Lys Ser Tyr Phe Gly Val
99          35          40          45
102 Asp Glu Ala Asp Thr Tyr Asp Pro Asn Gln Leu Arg Tyr Glu Lys Phe
103          50          55          60
106 Phe Phe Thr Val Lys Met Thr Val Arg Ser Asn Arg Pro Phe Arg Thr
107 65          70          75          80
110 Tyr Ser Asp Val Ala Ala Ala Val Ser His Trp Asp His Met Tyr Ile
111          85          90          95
114 Gly Met Ala Gly Lys Arg Pro Phe Tyr Lys Ile Leu Ala Phe Leu Gly
115          100          105          110
118 Ser Ser Asn Leu Lys Ala Thr Pro Ala Val Leu Ala Asp Gln Gly Gln
119          115          120          125
122 Pro Glu Tyr His Thr His Cys Glu Gly Arg Ala Tyr Leu Pro His Arg
123          130          135          140
126 Met Gly Lys Thr Pro Pro Met Leu Asn Val Pro Glu His Phe Arg Arg
127 145          150          155          160
130 Pro Phe Asn Ile Gly Leu Tyr Lys Gly Thr Ile Glu Leu Thr Met Thr
131          165          170          175
134 Ile Tyr Asp Asp Glu Ser Leu Glu Ala Ala Pro Met Ile Trp Asp His
135          180          185          190
138 Phe Asn Ser Ser Lys Phe Ser Asp Phe Arg Glu Lys Ala Leu Met Phe
139          195          200          205
142 Gly Leu Ile Val Glu Lys Lys Ala Ser Gly Ala Trp Val Leu Asp Ser
143          210          215          220
146 Ile Ser His Phe Lys
147 225

```

150 <210> SEQ ID NO: 3

151 <211> LENGTH: 229

152 <212> TYPE: PRT

153 <213> ORGANISM: Vesicular stomatitis virus

155 <400> SEQUENCE: 3

```

157 Met Ser Ser Leu Lys Lys Ile Leu Gly Leu Lys Gly Lys Gly Lys Lys
158 1          5          10          15
161 Ser Lys Lys Leu Gly Ile Ala Pro Pro Pro Tyr Glu Glu Asp Thr Ser
162          20          25          30
165 Met Glu Tyr Ala Pro Ser Ala Pro Ile Asp Lys Ser Tyr Phe Gly Val
166          35          40          45
169 Asp Glu Met Asp Thr Tyr Asp Pro Asn Gln Leu Arg Tyr Glu Lys Phe
170          50          55          60
173 Phe Phe Thr Val Lys Met Thr Val Arg Ser Asn Arg Pro Phe Arg Thr
174 65          70          75          80

```

RAW SEQUENCE LISTING

DATE: 08/08/2005

PATENT APPLICATION: US/10/656,894

TIME: 10:04:32

Input Set : D:\P-3558-US.txt

Output Set: N:\CRF4\08082005\J656894.raw

```

177 Tyr Ser Asp Val Ala Ala Ala Val Ser His Trp Asp His Met Tyr Ile
178      85      90      95
181 Gly Met Ala Gly Lys Arg Pro Phe Tyr Lys Ile Leu Ala Phe Leu Gly
182      100      105      110
185 Ser Ser Asn Leu Lys Ala Thr Pro Ala Val Leu Ala Asp Gln Gly Gln
186      115      120      125
189 Pro Glu Tyr His Ala His Cys Glu Gly Arg Ala Tyr Leu Pro His Arg
190      130      135      140
193 Met Gly Lys Thr Pro Pro Met Leu Asn Val Pro Glu His Phe Arg Arg
194 145      150      155      160
197 Pro Phe Asn Ile Gly Leu Tyr Lys Gly Thr Ile Glu Leu Thr Met Thr
198      165      170      175
201 Ile Tyr Asp Asp Glu Ser Leu Glu Ala Ala Pro Met Ile Trp Asp His
202      180      185      190
205 Phe Asn Ser Ser Lys Phe Ser Asp Phe Arg Glu Lys Ala Leu Met Phe
206      195      200      205
209 Gly Leu Ile Val Glu Lys Lys Ala Ser Gly Ala Trp Val Leu Asp Ser
210      210      215      220
213 Ile Ser His Phe Lys
214 225
217 <210> SEQ ID NO: 4
218 <211> LENGTH: 229
219 <212> TYPE: PRT
220 <213> ORGANISM: Vesicular stomatitis virus
222 <400> SEQUENCE: 4
224 Met Ser Ser Leu Lys Lys Ile Leu Gly Leu Lys Gly Lys Gly Lys Lys
225 1      5      10      15
228 Ser Lys Lys Leu Gly Ile Ala Pro Pro Pro Tyr Glu Glu Asp Thr Ser
229      20      25      30
232 Met Glu Tyr Ala Pro Ser Ala Pro Ile Asp Lys Ser Tyr Phe Gly Val
233      35      40      45
236 Asp Glu Met Asp Thr Tyr Asp Pro Asn Gln Leu Arg Tyr Glu Lys Phe
237      50      55      60
240 Phe Phe Thr Val Lys Met Thr Val Arg Ser Asn Arg Pro Phe Arg Thr
241 65      70      75      80
244 Tyr Ser Asp Val Ala Ala Ala Val Ser His Trp Asp His Met Tyr Ile
245      85      90      95
248 Gly Met Ala Gly Lys Arg Pro Phe Tyr Lys Ile Leu Ala Phe Leu Gly
249      100      105      110
252 Ser Ser Asn Leu Lys Ala Thr Pro Ala Val Leu Ala Asp Gln Gly Gln
253      115      120      125
256 Pro Glu Tyr His Thr His Cys Glu Gly Arg Ala Tyr Leu Pro His Arg
257      130      135      140
260 Met Gly Lys Thr Pro Pro Met Leu Asn Val Pro Glu His Phe Arg Arg
261 145      150      155      160
264 Pro Phe Asn Ile Gly Leu Tyr Lys Gly Thr Ile Glu Leu Thr Met Thr
265      165      170      175
268 Ile Tyr Asp Asp Glu Ser Leu Glu Ala Ala Pro Met Ile Trp Asp His
269      180      185      190

```

RAW SEQUENCE LISTING

DATE: 08/08/2005

PATENT APPLICATION: US/10/656,894

TIME: 10:04:32

Input Set : D:\P-3558-US.txt

Output Set: N:\CRF4\08082005\J656894.raw

```

272 Phe Asn Ser Ser Lys Phe Ser Asp Phe Arg Glu Lys Ala Leu Met Phe
273      195      200      205
276 Gly Leu Ile Val Glu Lys Lys Ala Ser Gly Ala Trp Val Leu Asp Ser
277      210      215      220
280 Ile Gly His Phe Lys
281 225
284 <210> SEQ ID NO: 5
285 <211> LENGTH: 690
286 <212> TYPE: DNA
287 <213> ORGANISM: Vesicular stomatitis virus
289 <400> SEQUENCE: 5
290 atgagttcct taaagaagat tctcggctctg aaggggaaaag gtaagaaatc taagaaatta      60
292 gggatcgcac caccocctta tgaagaggac actagcgctg agtatgctcc gagcgctcca      120
294 attgacaaat cctatttttg agttgacgag gctgacacct atgatccgaa tcaattaaga      180
296 tatgagaaat tcttctttac agtgaaaatg acggttagat ctaatcgctc gttcagaaca      240
298 tactcagatg tggcagccgc tgtatcccat tgggatcaca tgtacatcgg aatggcaggg      300
300 aaacgtccct tctacaaaat cttggctttt ttgggttctt ctaatctaaa ggccactcca      360
302 gcggtattgg cagatcaagg tcaaccagag tatcacgctc actgcgaagg cagggcttat      420
304 ttgccacata ggatggggaa gaccocctccc atgctcaatg taccagagca cttcagaaga      480
306 ccattcaata taggtcttta caagggaaacg attgagctca caatgaccat ctacgatgat      540
308 gagtcaactg aagcagctcc tatgatctgg gatcatttca attcttccaa attttctgat      600
310 ttcagagaga aggccttaat gtttggcctg attgtcgaga aaaaggcatc tggagcgtgg      660
312 gtcctggact ctatcggcca cttcaaatga      690
315 <210> SEQ ID NO: 6
316 <211> LENGTH: 42
317 <212> TYPE: PRT
318 <213> ORGANISM: Vesicular stomatitis virus
320 <400> SEQUENCE: 6
322 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
323 1      5      10      15
326 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Ala
327      20      25      30
330 Leu Val Glu Gly Trp Phe Ser Ser Trp Lys
331      35      40
334 <210> SEQ ID NO: 7
335 <211> LENGTH: 42
336 <212> TYPE: PRT
337 <213> ORGANISM: Vesicular stomatitis virus
339 <400> SEQUENCE: 7
341 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
342 1      5      10      15
345 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Glu
346      20      25      30
349 Leu Val Glu Asp Trp Phe Ser Ser Trp Lys
350      35      40
353 <210> SEQ ID NO: 8
354 <211> LENGTH: 42
355 <212> TYPE: PRT
356 <213> ORGANISM: Vesicular stomatitis virus

```

RAW SEQUENCE LISTING

DATE: 08/08/2005

PATENT APPLICATION: US/10/656,894

TIME: 10:04:32

Input Set : D:\P-3558-US.txt

Output Set: N:\CRF4\08082005\J656894.raw

```

358 <400> SEQUENCE: 8
360 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
361 1 5 10 15
364 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Glu
365 20 25 30
368 Leu Val Glu Gly Ala Phe Ser Ser Trp Lys
369 35 40
372 <210> SEQ ID NO: 9
373 <211> LENGTH: 42
374 <212> TYPE: PRT
375 <213> ORGANISM: Vesicular stomatitis virus
377 <400> SEQUENCE: 9
379 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
380 1 5 10 15
383 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Glu
384 20 25 30
387 Leu Val Glu Gly Trp Ala Ser Ser Trp Lys
388 35 40
391 <210> SEQ ID NO: 10
392 <211> LENGTH: 42
393 <212> TYPE: PRT
394 <213> ORGANISM: Vesicular stomatitis virus
396 <400> SEQUENCE: 10
398 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
399 1 5 10 15
402 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Glu
403 20 25 30
406 Leu Val Glu Gly Trp Phe Ser Ser Ala Lys
407 35 40
410 <210> SEQ ID NO: 11
411 <211> LENGTH: 42
412 <212> TYPE: PRT
413 <213> ORGANISM: Vesicular stomatitis virus
415 <400> SEQUENCE: 11
417 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
418 1 5 10 15
421 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Glu
422 20 25 30
425 Leu Val Glu Gly Trp Phe Ser Ser Trp Lys
426 35 40
429 <210> SEQ ID NO: 12
430 <211> LENGTH: 42
431 <212> TYPE: PRT
432 <213> ORGANISM: Vesicular stomatitis virus
434 <400> SEQUENCE: 12
436 Phe Glu His Pro His Ile Gln Asp Ala Ala Ser Gln Leu Pro Asp Asp
437 1 5 10 15
440 Glu Ser Leu Phe Phe Gly Asp Thr Gly Leu Ser Lys Asn Pro Ile Glu
441 20 25 30

```

VERIFICATION SUMMARY

DATE: 08/08/2005

PATENT APPLICATION: US/10/656,894

TIME: 10:04:33

Input Set : D:\P-3558-US.txt

Output Set: N:\CRF4\08082005\J656894.raw